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A Surprise Guest in the Inguinal Canal: Asymptomatic Littre's Hernia

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Abstract

Littre's hernia is a rare clinical entity characterized by the presence of a Meckel's diverticulum within a hernial sac. Its clinical presentation is similar to that of any hernia containing intestinal contents, making preoperative diagnosis difficult. We report the case of a 59-year-old male presenting with a right-sided indirect inguinal hernia. Intraoperatively, the hernial sac was found to contain a loop of ileum along with a 5 cm Meckel's diverticulum with a broad base. The patient underwent a standard Lichtenstein mesh repair.

Categories: General Surgery
Keywords: case report, indirect inguinal hernia, inguinal hernia, littre's hernia, meckel's diverticulum

Introduction

Littre's hernia (LH) denotes any abdominal wall hernia containing a Meckel's diverticulum (MD), occasionally in conjunction with other intestinal loops [1]. MD, the most common congenital anomaly of the gastrointestinal tract, is a true diverticulum resulting from incomplete obliteration of the vitelline duct. It is present in about 2% of the population, usually arises from the antimesenteric border of the ileum, and may contain heterotopic gastric or pancreatic tissue [2]. Although MD is usually asymptomatic [3], about 4% of cases develop complications, chiefly bleeding, intestinal obstruction, diverticulitis, or perforation [2]. A systematic review by Răcăreanu et al. identified 98 cases of LH in 89 articles [4]; the literature therefore consists largely of isolated case reports, and no consensus management guidelines exist. In "true" LH, the hernial sac contains only the MD, whereas in "mixed" LH, the MD is accompanied by a segment of adjacent small bowel [5]. LH has been reported across all age groups [6]. In adults, MD is most often found in inguinal hernias, accounting for about 50% of cases, while femoral and umbilical hernias each account for approximately 20% [7,8]. Symptomatic cases are more common in males, with a reported male-to-female ratio ranging from 1.5:1 to 4:1 [9]. LH may present with intestinal obstruction or symptoms related to the MD itself [9]. Preoperative diagnosis remains difficult, as LH lacks distinctive clinical or radiological features that reliably distinguish it from other hernias [10, 11]. We report an asymptomatic mixed LH discovered during elective inguinal hernia repair, in which a viable, broad-based MD was preserved, and a Lichtenstein mesh hernioplasty was performed. This case highlights that LH can present electively and adds to the limited evidence supporting diverticular preservation and prosthetic repair in this setting.

Case Presentation

A 59-year-old male presented to the outpatient department with a right groin hernia, which had been increasing in size for over six months with no specific symptoms. His bladder and bowel habits were normal, and he reported a history of smoking for the last 10 years. Previous medical history was unremarkable. He had suffered a road traffic accident 25 years back, for which he had undergone emergency exploratory laparotomy. On clinical examination, a 4 x 4 cm swelling was noted in the right inguinal region, which was soft, non-tender, and exhibited a positive cough impulse. The overlying skin appeared normal. A healed midline vertical surgical scar measuring approximately 10 × 1 cm was noted, along with two healed drain site scars (1 x 1 cm each) in the right lumbar region. Additionally, a healed burn scar measuring 1.5 × 1 cm was observed in the right lumbar area. Digital rectal examination was unremarkable. Laboratory investigations revealed a hemoglobin of 15.7 g/dL, a total leukocyte count of 6320/mm^3, and a platelet count of 158000/mm^3; renal and liver function tests were within normal limits. Ultrasonography (USG) of the right groin showed a hernia sac protruding through the deep inguinal ring on the right side, lateral to the inferior epigastric vessels, with small bowel as content. Small bowel loops measured 1.5 cm in caliber with normal wall thickness and vascularity. No blind ending loop or separate tubular structure suggestive of an MD was identified. After obtaining consent, a Lichtenstein mesh-hernioplasty was performed under spinal anesthesia. Intra-operatively, the indirect inguinal hernia contained a loop of ileum along with a 5 cm broad-based Meckel's diverticulum with adhesions (Figure *1*).

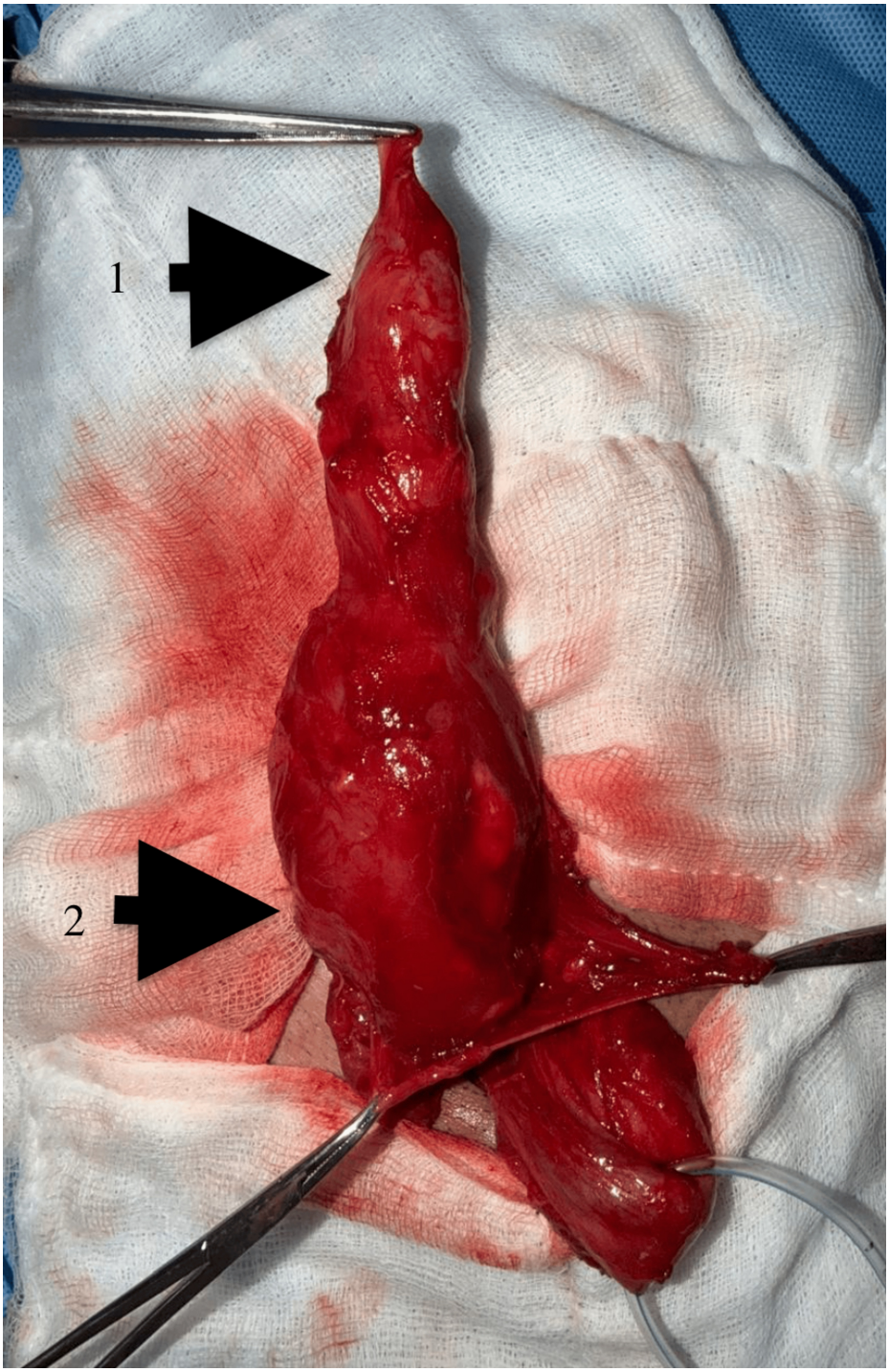


FIGURE 1: Intraoperative image of Littre's hernia showing the right indirect inguinal hernial sac containing a Meckel's diverticulum and an adjacent loop of ileum

Arrow 1) Meckle's diverticulum; arrow 2) loop of ileum

The base of the MD and the adjacent loop of ileum were inspected and found to be completely healthy, pink, viable, and well-perfused, without induration or any other local signs of inflammation, bleeding, or structural abnormality. The base of the MD was widely patent with no evidence of stricture or obstruction. Because the diverticulum was completely unremarkable, the decision was made to reduce the sac contents intact into the peritoneal cavity without resection, and a standard Lichtenstein tension-free mesh hernioplasty was performed (15 x 7.5 cm Prolene light-weight macroporous mesh; Medtronic, Galway, Ireland). Resection of MD was not done during Lichtenstein repair to maintain a sterile surgical field and eliminate the risk of bacterial contamination during the subsequent mesh

placement. The postoperative course was uneventful, and the patient was discharged on the third postoperative day. The patient was followed up for three months, during which he had no hernia recurrence, wound or mesh-related complications, or symptoms related to the MD.

Discussion

Since the first case description by Alexis de Littre in the 18th century, it has been recommended that all cases, regardless of how they were diagnosed or treated, should be reported [3]. While it is not certain how an MD becomes the content of an LH, it is believed that an inflammatory event causes Meckel's diverticulum to adhere to the peritoneal cul-de-sac before the testicular descent, which prevents closure of the processus vaginalis and hence the LH formation [11]. Most publications report LH presenting as surgical emergencies such as strangulation, bowel obstruction, or perforation [4,5]. In contrast, our patient presented with an asymptomatic inguinal hernia, which could not be diagnosed as an LH preoperatively, indicating that LH should not be regarded only as an emergent surgical condition. Unexpected identification of an LH during surgery may catch the surgical team off guard and pose a challenge in deciding whether the MD requires resection. As there is no accepted management algorithm for LH, the treatment should be individualized after careful on-table assessment of the diverticular condition, its viability, associated pathology, and the degree of operative field contamination [11,12]. In our patient, the MD appeared healthy without associated pathology, ischemia, or perforation and did not justify resection. The management of an incidentally detected MD in adults remains debated. A systematic review by Zani et al. found that prophylactic resection carried a higher complication rate than leaving the diverticulum in situ, with approximately 758 resections required to prevent one death [13]. Park et al. identified age below 50 years, male sex, diverticular length over 2 cm, and palpable abnormal features as risk factors for future symptomatic MD [14]. Although our patient was male with a 5 cm diverticulum, he was older than 50 years; the diverticulum was broad-based, and there were no palpable abnormal features. A broad base also lowers the risk of obstruction by intussusception or volvulus. Furthermore, resection of a broad-based MD generally requires segmental ileal resection with anastomosis, which, through an inguinal incision, would have contaminated the field immediately before mesh placement. We acknowledge that heterotopic mucosa cannot be excluded with certainty without histology.

In the absence of adhesion with the hernial sac, an MD may not be a constant content of the sac. Therefore, the chance of finding it preoperatively on a screening ultrasonographic (USG) examination is low, as the contents may have been reduced or it may show nonspecific features of associated bowel loops. Importantly, since an asymptomatic inguinal hernia may not need a preoperative screening USG, the MD, if present, may remain undetected. In the present case, the adhesions between an asymptomatic MD and the hernial sac may be postoperative, due to previous exploratory laparotomy, as the absence of induration or any other clinical signs of local inflammation rules out major inflammatory events. It may indicate minor local events that went undetected in the patient's history. Concerns related to the use of a prosthetic mesh in an asymptomatic LH are unfounded, and it is believed that after preservation of the diverticulum, a definitive prosthetic mesh repair can be safely considered [4,5]. The main limitation of this report is the short follow-up of three months, which is insufficient to establish the long-term safety of diverticular preservation or the durability of mesh repair.

Conclusions

Littre's hernia (LH) remains a rare surgical entity that can present as an asymptomatic groin hernia in routine elective settings. An asymptomatic LH is seldom diagnosed before surgery, as imaging frequently fails to differentiate Meckel's diverticulum (MD) from routine herniated bowel loops. Intraoperative management must be individualized based on careful assessment of diverticular viability and exclusion of associated pathology/inflammation should guide definitive surgical intervention on a case-by-case basis. When the MD is viable and healthy, preservation with tension-free mesh repair appears to be a safe option in selected patients, although longer follow-up is required to confirm its durability.

Additional Information

Author Contributions

All authors have reviewed the final version to be published and agreed to be accountable for all aspects of the work.

Concept and design: Navin Kumar, Somprakas Basu

Acquisition, analysis, or interpretation of data: Navin Kumar, Aanchal Goyal, Manoj Joshua Lokavarapu, Nirmal Raj K, Somprakas Basu, Naman P. Singh, R. S. Prafulla Mahathi, Anila Vasudev, Imran Ali, Aditya Arnav

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Disclosures

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